

Application Number 10/057,043
Responsive to Office Action mailed June 26, 2006

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REMARKS

This Amendment is responsive to the Final Office Action dated June 26, 2006. Applicant has amended claims 14, 27, 35 and 53. Applicant has canceled claims 40 and 54. Claims 1-4, 6-17, 27-30, 35-39, 41-46, 53, 55 and 56 are pending upon entry of this Amendment.

Independent claims 27, 35 and 53 were amended to include features of dependent claims 40 and 53, now cancelled, which have been fully examined. No new matter has been added by these amendments. The amended independent claims include subject matter previously recited in dependent claims and, therefore, do not raise new issues and do not require an additional search by the Examiner. Applicant requests entry of this Amendment.

Claim Rejection Under 35 U.S.C. § 112

In the Final Office Action, the Examiner rejected claims 14 and 15 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Examiner rejected claims 14 and 15 for being dependent on canceled claim 5. Applicant has amended claim 14 to properly depend from independent claim 1. Claim 15 is dependent on amended claim 14. Applicant submits that claims 14 and 15, as amended, particularly point out and distinctly claim the subject matter, as required by 35 U.S.C. 112, second paragraph. Applicant requests withdrawal of the rejections under 35 U.S.C. 112.

Claim Rejection Under 35 U.S.C. § 103

In the Final Office Action, the Examiner rejected claims 1, 3, 4, 6-11, 14, 15, 27, 28, 30, 35, 37-44 and 53-56 under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,473,863 to Genty et al. ("Gentry") in view of U.S. Patent No. 6,353,593 to Chen et al. ("Chen") in view of U.S. Patent No. 6,092,113 to Maeshima et al. ("Maeshima"). The Examiner also rejected claims 2 and 36 under 35 U.S.C. 103(a) as being unpatentable over Genty in view of Chen in view of Maeshima, and further in view of U.S. Patent Application No. 2003/0016679 to Adams et al. ("Adams"). In addition, the Examiner rejected claims 12, 13, 45 and 46 under 35 U.S.C. 103(a) as being unpatentable over Genty in view of Chen in view of Maeshima, and further in view of Jorgensen (US 2002/0099854). Finally, the Examiner rejected claims 16, 17

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and 29 under 35 U.S.C. 103(a) as being unpatentable over Genty in view of Chen in view of Maeshima, and further in view of Shawcross (US 6,880,090).

Applicant respectfully traverses the rejection to the extent such rejections may be considered applicable to the claims as amended. The applied references fail to disclose or suggest the inventions defined by Applicant's claims, and provide no teaching that would have suggested the desirability of modification to arrive at the claimed invention.

Genty, Chen and Maeshima

Applicants have amended independent claims 27, 35 and 53 to include the features of previously pending claims 40 and 54, now cancelled. Independent claims 1, 27, 35 and 53 now recite reserving for a packet tunnel an amount of bandwidth within an access link, canceling the reserved bandwidth for the packet tunnel after establishing a new packet tunnel upon detecting a network attack, and reserving for the new packet tunnel an amount of bandwidth within the access link upon canceling the reserved bandwidth for the packet tunnel. That is, independent claims 1, 27, 35 and 53 specifically require that the new tunnel is established prior to canceling the bandwidth reserved for the original tunnel, and that bandwidth is not reserved for the new tunnel until the reserved bandwidth for the original tunnel is canceled. In this way, Applicants' invention as claimed ensures that a new tunnel is established before canceling bandwidth for the original tunnel, i.e., shutting down the original tunnel, so as not to disrupt network performance, but that bandwidth is not reserved for the new tunnel until canceling the bandwidth for the original tunnel, so as to not to exceed the amount of available bandwidth for the network.

With respect to the features of independent claims 1, 27, 35 and 53, the Examiner stated that Genty in view of Chen teaches establishing a secondary tunnel including two or more concatenated packet tunnels and abandoning an original tunnel upon detecting a network attack, inherently canceling the bandwidth involved in the original tunnel. In addition, the Examiner stated that Maeshima teaches reserving bandwidth for every tunnel on the network, including the original tunnel and the new tunnel. The Examiner further stated that Genty, Chen, and Maeshima are analogous art because they are related to virtual private network setup. The Examiner asserted that it would have been obvious to a person of ordinary skill in the art to use

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the bandwidth reservation method taught by Maeshima with the system taught by Gentry in view of Chen to construct a tunnel which enables assurance of bandwidth.

Genty, Chen and Maeshima, either singularly or in combination, fail to teach or suggest canceling the reserved bandwidth for the packet tunnel after establishing a new packet tunnel upon detecting a network attack and reserving for the new packet tunnel an amount of bandwidth within the access link upon canceling the reserved bandwidth for the packet tunnel. Although Genty in view of Chen describes establishing the secondary tunnel and abandoning the original tunnel upon detecting a network attack, the Maeshima reference merely describes reserving bandwidth for every IP tunnel that has been established in a network.

According to the Maeshima reference, bandwidth will be reserved for the new tunnel upon establishment of the new tunnel in the network. This is directly contrary to Applicant's claimed invention, which requires reserving bandwidth for the new tunnel upon canceling bandwidth for an original tunnel after establishment of the new tunnel in the network. Maeshima does not disclose establishing a new tunnel in a network and then waiting to reserve bandwidth for the new tunnel until reserved bandwidth for an old tunnel in the network is canceled.

Applicant's invention as claimed requires a specific order of events when failing over to a newly established tunnel and reserving bandwidth for the new tunnel. Genty in view of Chen and Maeshima do not disclose or even suggest first establishing a new tunnel upon detecting a network attack, second canceling reserved bandwidth for the original tunnel after establishing the new tunnel, and third reserving bandwidth for the new tunnel after canceling the reserved bandwidth for the packet tunnel, as required by Applicant's independent claims 1, 27, 35 and 53.

Even if the teachings of Genty in view of Chen were modified by the teachings of Maeshima as suggested by the Examiner, the combined references would not result in Applicant's invention as claimed. Genty in view of Chen describes establishing the secondary tunnel and abandoning the original tunnel upon detecting a network attack. Maeshima specifically describes reserving bandwidth for every IP tunnel on a network, including the newly established tunnel. Combining the references would result in a system that establishes a new tunnel upon detecting a network attack and immediately reserves bandwidth for the new tunnel. There is no suggestion for a different approach in any of the references, even when combined. The original tunnel may be abandoned after establishing the new tunnel and reserving bandwidth

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for the new tunnel, at which time any reserved bandwidth for the original tunnel would be abandoned. Therefore, the combination of references suggested by the Examiner would result in a system in which bandwidth is simultaneously reserved for both the new tunnel and the original tunnel until the original tunnel is abandoned after establishing the new tunnel. This may cause the amount of reserved bandwidth for the new tunnel to either exceed the amount of available bandwidth for the network, or be limited to the remaining amount of bandwidth for the network. In either case, the overlapping bandwidth reservations for the original tunnel and the new tunnel may cause disruption in performance of the network.

Clearly, the combined teachings would not result in Applicant's recited technique for establishing a new packet tunnel, canceling reserved bandwidth for an original packet tunnel after establishing the new packet tunnel, and reserving bandwidth for the new packet tunnel upon canceling the reserved bandwidth for the original tunnel, as required by Applicants' independent claims 1, 27, 35 and 53.

As an additional matter, Applicant would like to point out that, contrary to the Examiner's assertion, Maeshima does not describe reserving for the packet tunnel an amount of bandwidth within an access link, as recited by Applicant's independent claims 1, 27, 35 and 53. Instead, Maeshima describes setting up a resource reservation protocol on an IP tunnel established between routers to assure an amount of bandwidth within the IP tunnel. Applicant's specification and dependent claim 4 defines an access link as coupling a destination network device of a tunnel to a public network. Applicant's specification further states that "the RSVP reservation is not an end-to-end reservation between the end points of the flow, as is typical for RSVP usage, but only applies to respective access links 7 connecting edge routers 10 to public network 6," (Page 6, ll. 4-6). Clearly, Maeshima fails to teach reserving bandwidth within an access link for either an original packet tunnel or a new packet tunnel established upon detecting a network attack in the original packet tunnel.

For at least these reasons, Applicant's independent claims 1, 27, 35 and 53 are in condition for allowance, as are Applicant's dependent claims 3, 4, 6-11, 14, 15, 28, 30, 37-39, 41-44, 55 and 56.

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Genty, Chen and Adams

As described above, Genty, Chen and Maeshima do not teach or suggest reserving for a packet tunnel an amount of bandwidth within an access link, canceling the reserved bandwidth for the packet tunnel after establishing a new packet tunnel upon detecting a network attack, and reserving for the new packet tunnel an amount of bandwidth within the access link upon canceling the reserved bandwidth for the packet tunnel, as recited by Applicant's independent claims 1 and 35 from which claims 2 and 36 depend. Adams fails to provide any teaching capable of overcoming the deficiencies of Genty, Chen and Maeshima.

Genty, Chen and Jorgensen

As described above, Genty, Chen and Maeshima do not teach or suggest reserving for a packet tunnel an amount of bandwidth within an access link, canceling the reserved bandwidth for the packet tunnel after establishing a new packet tunnel upon detecting a network attack, and reserving for the new packet tunnel an amount of bandwidth within the access link upon canceling the reserved bandwidth for the packet tunnel, as recited by Applicant's independent claims 1 and 35 from which claims 12, 13, 45 and 46 depend. Jorgensen fails to provide any teaching capable of overcoming the deficiencies of Genty, Chen and Maeshima.

Genty, Chen and Shawcross

As described above, Genty, Chen and Maeshima do not teach or suggest reserving for a packet tunnel an amount of bandwidth within an access link, canceling the reserved bandwidth for the packet tunnel after establishing a new packet tunnel upon detecting a network attack, and reserving for the new packet tunnel an amount of bandwidth within the access link upon canceling the reserved bandwidth for the packet tunnel, as recited by Applicant's independent claims 1 and 27 from which claims 16, 17 and 29 depend. Shawcross fails to provide any teaching capable of overcoming the deficiencies of Genty, Chen and Maeshima.

For at least these reasons, the references fail to establish a prima facie case for non-patentability of Applicant's claims 1-4, 6-17, 27-30, 35-39, 41-46, 53, 55 and 56 under 35 U.S.C. 103(a). Withdrawal of this rejection is requested.

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All claims in this application are in condition for allowance. Applicant respectfully requests reconsideration and prompt allowance of all pending claims. Please charge any additional fees or credit any overpayment to deposit account number 50-1778. The Examiner is invited to telephone the below-signed agent to discuss this application.

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By:

August 25, 2006SHUMAKER & SIEFFERT, P.A.
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